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<input type="checkbox"/>	L5	L4 and supercritical	1
<input type="checkbox"/>	L4	(removing and (oil or organic\$) and swarf)	68
<input type="checkbox"/>	L3	(removing and (oil or organic\$) and swarf) and 134/10.ccls.	0
		<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L2	(removing and (oil or organic\$) and swarf) and 134/10.ccls.	7
<input type="checkbox"/>	L1	((removing and (oil or organic\$) and swarf) and 134/10.ccls.) AND @pd>20060622	0

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☐ 1. Document ID: US 20050257809 A1

L6: Entry 1 of 9

File: PGPB

Nov 24, 2005

PGPUB-DOCUMENT-NUMBER: 20050257809

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050257809 A1

TITLE: Method and apparatus for removing substances from solid matrix with energy saving

PUBLICATION-DATE: November 24, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Fedegari, Fortunato	Pavia		IT
Scullino, Andrea	Milano		IT
Pallado, Paolo	Padova		IT

US-CL-CURRENT: 134/10; 134/104.2, 134/105

ABSTRACT:

A method and apparatus for washing solid matrices such as swarf from machining operations, bottles or other containers, contaminated with lubricating oils or similar substances, are described. The method is implemented with liquid CO.sub.2 which dissolves the organic substances and is then separated therefrom by evaporation; the evaporated CO.sub.2 is then compressed and condensed in order to recommence the cycle. An advantage of the method and apparatus is that some of the heat supplied to the CO.sub.2 for its evaporation and some of that removed for its condensation are obtained by providing for an exchange of heat between the evaporator and the condenser of the system.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	R000	Draw De
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☐ 2. Document ID: US 20050199263 A1

L6: Entry 2 of 9

File: PGPB

Sep 15, 2005

PGPUB-DOCUMENT-NUMBER: 20050199263

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050199263 A1

TITLE: Washing method and washing device

PUBLICATION-DATE: September 15, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Irie, Yousuke	Nara		JP
Morita, Kiyoyuki	Kyoto		JP
Suzuki, Masaaki	Osaka		JP
Adachi, Akihisa	Nara		JP
Hashimoto, Masahiko	Osaka		JP

US-CL-CURRENT: 134/2; 134/10, 134/105, 134/184, 134/31, 134/57R

ABSTRACT:

A cleaning effect is improved by cleaning a component that has a recess structure by using a cleaning medium of a liquefied gas or a supercritical fluid. By the cleaning method of removing adhering substances adhering to at least the surface of the recess structure of the component that has the recess structure, cleaning is carried out by using the supercritical gas or the liquefied gas so that the cleaning medium spreads over the surface of the recess structure.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 20050101237 A1

L6: Entry 3 of 9

File: PGPB

May 12, 2005

PGPUB-DOCUMENT-NUMBER: 20050101237

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050101237 A1

TITLE: Impregnation of grinding wheels using supercritical fluids

PUBLICATION-DATE: May 12, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Vecchiarelli, Jodi Ann	Feeding Hills	MA	US
Kinisky, Thomas G.	Chagrin Falls	OH	US
Sheldon, David A.	Millbury	MA	US

US-CL-CURRENT: 451/548; 51/307

ABSTRACT:

An additive impregnated abrasive article and method for fabricating the same is provided. The method includes providing an abrasive article having a pore structure, dissolving an additive in a supercritical fluid, and exposing the abrasive article to the additive-laden supercritical fluid, so that the fluid

disperses through the pore structure. The supercritical fluid is then brought to below its critical point for a period of time sufficient to dissociate the additive from the fluid, so that the additive is deposited within the pore structure of the abrasive article.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWMC	Draw D
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☐ 4. Document ID: US 20050087040 A1

L6: Entry 4 of 9

File: PGPB

Apr 28, 2005

PGPUB-DOCUMENT-NUMBER: 20050087040

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050087040 A1

TITLE: Method for recycling metals from swarf

PUBLICATION-DATE: April 28, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Chang, James I.	Kaohsiung		TW
Chiu, Neng-Hsin	Kaohsiung		TW
Jang, You-Ming	Kaohsiung		TW
Lin, Chun-Chi	Chiai		TW

US-CL-CURRENT: 75/711; 75/715

ABSTRACT:

A method for recycling metals from swarf includes steps of removing oil in swarf by means of surfactant having a feature of strong hydrophilicity. The steps involves repeated stirring and washing, separating solid from liquid, and separating oil from water so as to force oil separate from the surface of solid, finishing all the steps in 10-30 minutes. Metals after finished the treatment may have only 1% of oil remained thereon, possible to be reused in metalworking. Oil and washing solution are also reusable after treated, so the method is effective both for treating waste and for recycling resources.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWMC	Draw D
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☐ 5. Document ID: US 20040088926 A1

L6: Entry 5 of 9

File: PGPB

May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040088926

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040088926 A1

TITLE: Supercritical fluid extraction

PUBLICATION-DATE: May 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kinsky, Thomas G.	Chagrin Falls	OH	US
Vecchiarelli, Jodi Ann	Feeding Hills	MA	US
Sheldon, David A.	Millbury	MA	US

US-CL-CURRENT: [51/296](#); [51/293](#), [51/298](#)

ABSTRACT:

A method is provided for fabricating an abrasive article having porosity. The method includes blending a mixture of abrasive grain, bond material, and pore inducer, in which the pore inducer is soluble in a supercritical fluid, and the abrasive grain and bond material are substantially insoluble in the supercritical fluid. The mixture is pressed into an abrasive laden composite and exposed to the supercritical fluid for a period of time suitable to dissolve at least a portion of the pore inducer. The composite is thermally processed.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWMC	Draw D
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☐ 6. Document ID: US 6932855 B2

L6: Entry 6 of 9

File: USPT

Aug 23, 2005

US-PAT-NO: 6932855

DOCUMENT-IDENTIFIER: US 6932855 B2

TITLE: Method for recycling metals from swarf

DATE-ISSUED: August 23, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chang; James I.	Kaohsiung			TW
Chiu; Neng-Hsin	Kaohsiung			TW
Jang; You-Ming	Kaohsiung			TW
Lin; Chun-Chi	Chiai			TW

US-CL-CURRENT: [75/711](#); [134/2](#), [75/715](#)

ABSTRACT:

A method for recycling metals from swarf includes steps of removing oil in swarf by means of surfactant having a feature of strong hydrophilicity. The steps involves repeated stirring and washing, separating solid from liquid, and separating oil from water so as to force oil separate from the surface of solid, finishing all the steps in 10-30 minutes. Metals after finished the treatment may have only 1% of oil remained thereon, possible to be reused in metalworking. Oil and washing solution are also reusable after treated, so the method is effective both for treating waste and for recycling resources.

9 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	NUMC	Draw De
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☐ 7. Document ID: US 6773473 B2

L6: Entry 7 of 9

File: USPT

Aug 10, 2004

US-PAT-NO: 6773473
DOCUMENT-IDENTIFIER: US 6773473 B2

TITLE: Supercritical fluid extraction

DATE-ISSUED: August 10, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kinisky; Thomas G.	Chagrin Falls	OH		
Vecchiarelli; Jodi Ann	Feeding Hills	MA		
Sheldon; David A.	Millbury	MA		

US-CL-CURRENT: 51/296; 51/293, 51/298, 51/307, 51/308, 51/309

ABSTRACT:

A method is provided for fabricating an abrasive article having porosity. The method includes blending a mixture of abrasive grain, bond material, and pore inducer, in which the pore inducer is soluble in a supercritical fluid, and the abrasive grain and bond material are substantially insoluble in the supercritical fluid. The mixture is pressed into an abrasive laden composite and exposed to the supercritical fluid for a period of time suitable to dissolve at least a portion of the pore inducer. The composite is thermally processed.

40 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	NUMC	Draw De
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☐ 8. Document ID: US 5290959 A

L6: Entry 8 of 9

File: USPT

Mar 1, 1994

US-PAT-NO: 5290959
DOCUMENT-IDENTIFIER: US 5290959 A

TITLE: Mass separation of materials

DATE-ISSUED: March 1, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rice; Wayne K.	Wanatah	IN		

US-CL-CURRENT: 554/11; 426/312, 426/417, 554/12, 554/184, 554/193, 554/205, 554/8

ABSTRACT:

An extraction process comprising contracting a material to be extracted with an extracting fluid at elevated pressure within a defined space, and separating the extracted fluid and extract as a mass, from the extracted material while reducing the volume of the defined space and while maintaining the elevated pressure within the defined space. Apparatus for carrying out the process is adapted to separate the extracting fluid and the extract, as a mass, from the extracted material, while maintaining elevated pressure and reducing the volume as the point of separation.

10 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	Keywords	Drawings
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☐ 9. Document ID: US 5169968 A

L6: Entry 9 of 9

File: USPT

Dec 8, 1992

US-PAT-NO: 5169968

DOCUMENT-IDENTIFIER: US 5169968 A

TITLE: Mass separation of liquid or soluble components from solid materials utilizing supercritical fluids

DATE-ISSUED: December 8, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rice; Wayne K.	Wanatah	IN		

US-CL-CURRENT: 554/193

ABSTRACT:

A process of separating materials is disclosed which comprises contacting a solid material with a fluid at an elevated pressure within a defined space, forming a fluid mixture of said fluid and a component of the solid material at the elevated pressure, separating the fluid mixture from the insoluble portion of the solid material at the elevated pressure and discharging the fluid mixture, as a mass, from a defined space, while simultaneously reducing the volume of the defined space at a rate sufficient to maintain the elevated pressure during the discharge step. Optionally, the insoluble portion of the solid material may be compacted during the separation step. The solid material may be selected from animal, vegetable, and

mineral sources and the fluid may be selected from CO.sub.2 and other gases or liquids. Apparatus for carrying out the process is also disclosed.

23 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KOMC	Draw Dg
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